GLOBAL CONTAINER MANAGEMENT PROCESS IMPROVEMENTS

GRP

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Abstract

Global Container Management is a multi-billion dollar part of the DOD's budget. Many reports have criticized the military for shortfalls in the handling of Global Container Management spurring major changes. While the title of distribution process owner is given to USTRANSCOM and executed by SDDC; the Combatant Commanders "own" all containers while residing or transferring through their respective AORs. This combined with training issues and lack of asset visibility creates opportunities to small rewrites of current policies enabling SDDC to execute a fully-functional global container management policy. The primary focus of this research will be on changes needed to training, policies, and full implementation of an integrated supply chain network system.

This thesis is dedicated to my husband. Through this journey I have come to realize how much I rely on his calmness, levelheadedness, proofreading skill and ability to remind me to get to work.

Acknowledgments

First and foremost I would like to thank Dr. Ogden for his mentoring and guidance throughout this process. Additionally, I would like to thank my sponsor, COL White for agreeing to allow me to research this topic. A special thanks to Mr. Mark LaRue for his invaluable input and insight into Global Container Management.

Traci L. Bowman

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I. Introduction

General Issue

"Containerisation is a testament to the power of process innovation. In the 1950s the world's ports still did business much as they had for centuries" (Perry, 2014). "Container management is the planning, organizing, directing, controlling, and execution of functions and responsibilities required to provide for positive and effective use…" (Joint Publication 4-09, 2003). The Department of Defense (DOD) has been heavily utilizing shipping container for decades. Global Container Management (GCM) is an important component of the DOD's logistics network accounting for a significant portion of its cost.

> The Department's logisticians manage an extremely large and complex supply chain to support military operations around the world. The Department spent $210 billion in FY10 on its logistics enterprise, which is divided into maintenance ($112 billion), supply ($74 billion), and transportation ($24 billion) (Odeen, Chao, Phillips, Spencer, Warner, & Whittington, 2011).

The DOD container fleet is valued at 2.1 billion dollars according to a briefing by the Military Surface Deployment & Distribution Command (SDDC) given July 29, 2014 (Military Surface Deployment and Distribution Command, 2014). Additional costs include container repair and stenciling, container inventory management (to include storage of containers while not in use), software development, and user training programs. As expected, an endeavor so large is met with many challenges and

opportunities for program improvements and criticism. These challenges and criticism have led to multiple revisions of policy and innovation to support the combatant command (COCOM). The basis for this research stems from considering the containers as a warfighter asset.

Problem Statement

SDDC has a fragmented GCM policy caused by horizontal levels of authority, conflicting mission and metrics, incomplete training and an inability for total asset visibility. As an Air Force Logistician, I served as the S4 (Supply Officer) for the 342nd EOD Battalion in Afghanistan. During the tour, a container inventory process was being performed. I did not have direct access to the containers storing Battalion supplies. Access to the Army supply system was also not available nor had I ever attended any Army supply training. This made the inventory process fragmented, frustrating, and inadequate. One of the largest recommendations for overall improvement to the GCM program is stated in the IDA report as:

> DOD should revise current policy to promote alignment of authorities, responsibilities, and resourcing. This alignment will be the product of iteratively examining current policy in coordination with transportation managers and theater commanders in light of the experiences of the past decade of war (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014).

Research Objectives/Questions

The objective of this research is to better understand the GCM process for the theater distribution network and identify barriers, bridges, and benefits of current and future policy, training needs, and total asset visibility.

Questions:

1. What are the major barriers facing GCM today?

2. How can bridges be created and utilized to strengthen the GCM enterprise for end-to-end users?

3. What changes within the network would make the most beneficial changes to the GCM policy to support the strategic perspective while accommodating tactical execution?

Assumptions/Limitations

The several assumptions and limitations associated with this research are listed as follows:

- The GCM Policy letter appointed United States Transportation Command (USTRANSCOM) the process owner with day-to-day execution conducted by SDDC

- Transloading (the process of transferring contents of a shipping container from one type of container asset to another) remains a non-standard practice per the Deputy Secretary of Defense policy and will be updated in DODI 4500.57, "Transportation and Traffic Management" (Deputy Secretary of Defense, 2009)

- As long as strategic and operational CM policy is managed by SDDC but executed in a tactical manner, true collaboration and consolidation will remain fragmented

Implications

This paper should be used to further argue for improvements to and facilitate the implementation of recommend changes to current GCM policy. Doing so will lead to SDDC having control over the entire GCM process to include containers once in a COCOM's area of responsibility (AOR) eliminating costly and wasteful seams in the program. Implementation of a single information technological system as well as proper training for GCM will also facilitate taking GCM to the next level of success.

II. Literature Review

Chapter Overview

Numerous reports have been written addressing major faults with GCM. Barriers to an integrated GCM exist within those policies. Many policy revisions have been implemented to address both major and minor GCM faults. These revisions can serve as a bridge to minimize GCM problems. Benefits to changing, eliminating, addressing the reports and policies will be addressed in the analysis chapter.

A key finding in the IDA report was, "A seam exists between strategic and operational-level container policy management and tactical-level container management execution" furthermore "This seam is said to grow as the enormity of the conflict increases" (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014).

> This vision (of future defense logistics operations) has been captured in several key documents such as the Strategic Plan of the Office of the Principal Deputy Assistant Secretary for Logistics and Materiel Readiness (within OUSD(AT&L)) as well as the Joint Staff's Joint Concept for Logistics, the USTRANSCOM Strategic Plan for 2011, and the DLA Strategic Plan for 2010-2017 (Odeen, Chao, Phillips, Spencer, Warner, & Whittington, 2011).

Relevant Research

Past reports "…address various aspects of container management including: (1) doctrine and planning for the use of containers in a contingency environment…"

(Russell, et al., 2014). This is far different than what doctrine is and does and the misuse and misunderstanding of the terminology further complicates successfully managing the GCM policy. Joint Publication 1 (JP-1) quotes General George H. Decker, USA Chief of Staff (1960-1962), "Doctrine provides a military organization with a common philosophy, a common language, a common purpose, and a unity of effort" (Department of Defense, CJCS, 2013). JP-1 defines tactics in the following sentence, "Tactics is the employment and ordered arrangement of forces in relation to each other" (Department of Defense, CJCS, 2013). Dictionary.com defines execution as, "effective, usually destructive action, or the result attained by it" (Dictionary, 2014). In this sense, the phrase tactical execution can mean employing to attain an action. Doctrine should not be used by the commanders engaged in the battle as they are fighting for tactical execution. "First, the theater priority, and the priority of tactical commanders, is on operational effectiveness" (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014). The tactical commander must understand his theater priorities and understandably, his concern will not be with immediately enforcing strategic-level policy set forth by USTRANSCOM.

One of the policies, established to decrease detention costs, as so noted in the Global Container Management Policy is to "provide for the effective and efficient receipt, movement, and return of containers…" (Deputy Secretary of Defense, 2009). This policy, while extremely important, is not as easy to achieve during an active conflict. The tactical commander is tasked, but may not be equipped with anything other than the directives. Returning containers in a directed timeline may be the first thing

pushed aside when competing priorities exist. This is stated factual in the JP 4-09, "Although fiscal discipline dictates that the payment of detention charges be minimized to the greatest extent practicable, for a host of operational situations, the payment of detention charges is a reality" (Joint Publication 4-09, 2003). The concept of moving items to and from various points is complex enough in a factory to customer door scenario. Add to the situation a massive buildup of materials required in an extremely short amount of time in a hostile environment, the process becomes unachievable without commitment and engagement from people.

"Employee engagement is the emotional commitment the employee has to the organization and its goals" (Kruse, 2012). A study performed in Australia designed an engagement study building on previous work to measure not only a level of employee engagement but drivers of engagement as well (Hicks, O'Reilly, & Bahr, 2014). Building the Australian study from previous studies in the area of organizational engagement, Hicks et al. conclude, "engagement has wide-reaching implications for employees' performance and organizational outcomes" (Hicks, O'Reilly, & Bahr, 2014). Implications include employees committed on an organizational level having higher levels of involvement, satisfaction, and willingness to go beyond the minimum standards set within the organization (Hicks, O'Reilly, & Bahr, 2014). Engagement is potentially one way to decrease the disconnect between strategic and tactical level outcomes in GCM.

There are multiple facets of GCM, one being the return or retrograde of the container to the owning organization. SDDC stated the DOD owns 320,019 containers

and had 65,126 carrier-owned containers moved in FY14 (Miltary Surface Deployment and Distribution Command, 2014). Detention fees are accumulated when a shipping container is not retrograded within a contracted amount of time. Detention fees alone have been reported to have cost the taxpayer $823 million since 2003 (Russell et al., 2014). Purchasing containers began as a mitigation strategy for the detention fees and works after the amount of detention fees reach a contracted price. The IDA report addresses conflict between this aspect of the Global Container Management, "While the lines of responsibility are clear, in practice, there is no accepted concept of operations for container retrograde" (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014). Much of the spotlight on Global Container Management has been on detention fees but decreasing or eliminating those fees does not immediately and completely fix the root cause(s) of problems within GCM. LaRue (2014) stated this point perfectly in a very no-nonsense statement by saying, "A lot of folks focus only on "detention" as a direct indicator of container management performance, but that's akin to going strictly off the patient's temperature as a sole indicator of health".

As noted in the Dempster-Shafer Theory in Aircraft Maintenance Time Assessment Case Study, "With some problems, there is a high degree of uncertainty, lack of data, and no historical precedence upon which to base an analysis, making the assignment of probabilistic estimations to uncertain parameters impossible" (Kudak & Hester, 2011). These uncertain estimations could include how many containers should the DOD buy vs. lease. This concept is addressed in the updated DODI E4.2.6.5. - E4.2.6.5.2.

> Perform, at least once every 5 years or when tasked, appropriate analyses based on peacetime and wartime or mobility capability study requirements and estimate: E4.2.6.5.1. Appropriate levels of DoD-owned containers. E4.2.6.5.2. Appropriate levels of containers required from commercial sources (e.g., leasing or use of carrier-provided equipment under contracts) to augment DoD capability (USD(AT&L), 2008).

Although large-scale conflict is not new to the United States, multi-year engagements have become unknown in terms of the amount of sustainment required to maintain the high level of presence in multiple, austere environments. One of several GAO studies noted, “The drawdown of equipment and personnel from Iraq is a highly complex operation of significant magnitude” (Solis, et al., 2010). The following table suggests potential changes to GCM delegating total CGM to USTRANSCOM.

Table 1: Current & Potential Arrangements. Source: IDA Study, 2014, p. 23

Responsibility	Current alignment	Potential change	Rationale
Life cycle management	Life cycle management of DoD and military department-owned containers is the responsibility of each **Service or DoD Component**	**USTRANSCOM, through SDDC** procures and maintains adequate inventory of common user containers determined essential for contingencies.	USTRANSCOM has ability to assess costs and benefits of meeting CCDR wartime needs for common user assets using government-owned vs carrier-owned assets.
Strategic container management	Strategic container management is the responsibility of **USTRANSCOM, through the SDDC**[35]	None	Already aligned with USTRANSCOM's role as global distribution process owner
Operational and tactical management for all containers moving into, within, and out of their area of responsibility	**Supported combatant commanders**, through their theater container manager, and may be delegated in accordance with the commander's concept of operations.	**USTRANSCOM** provides operational and tactical management for all containers in transit to and from the point of need, through theater-assigned Transportation Brigades and contracted services, in coordination with theater transportation managers.	USTRANSCOM has expertise and systems to maintain control of common user assets within theater of operations
Service-owned or Service-leased containers	**Individual units** that own or have leased them.	None	Once containers are transferred to unit property books, they are under that service's authority and responsibility.

The responsibility of operational and tactical management is currently owned by the supported COCOM through the theatre container manager. The IDA study suggests challenging the current alignment and moving total responsibility to USTRANSCOM as they already own the expertise and systems for GCM. While the Commander, USTRANSCOM is responsible to, "Oversee the overall efficiency, effectiveness, and interoperability of the Global Container Management program" (Deputy Secretary of Defense, 2009) the coordination with the other DOD components is still lagging.

It is common for companies and organizations to look to experts in similar fields of benchmarked practices to incorporate their successes into their own. "A case study is

an in-depth study of the cases under consideration" (Hamel, Dufour, & Fortin, 1993). UPS is an industry leader in supply chain solutions. The challenge UPS shared on their solutions webpage was the case-study vignette of a 500 million dollar company needing to successfully double their [order] fulfillment demand during four months of the year (UPS Supply Chain Solutions, 2014). This case study is similar the DOD container management problem of the supply surges in both Iraq and Afghanistan being "seasonal", meaning a larger than normal capability of services were required in a short amount of time. This holds true in any contingency operation as the need to surge and then sustain is the very definition of a contingency versus a standard supply or resupply. By challenging work standards (time the drivers spent in areas of delivery) and route optimization, the company was able to reduce driver mileage by 25 percent and avoid additional payroll and operating expenses of 500,000 dollars a year. Challenging work standards is already tasked to the GCM community, "Planning decisions concerning the intratheater balance of operational requirements and distribution support requirements have an impact at the strategic level. Tradeoffs on theater distribution capabilities may require compensating application of strategic level resources" (Joint Publication 4-09, 2003).

Continuing to challenge work standards and historical ways and means of managing how a container gets to and from the COCOM may prove worthy. An immediate small fix or improvement to the overall process may be as simple as transloading, "A process that occurs when a shipment is being transferred from one mode of transportation to another or from one type of container asset to another" (Deputy

Secretary of Defense, 2009). A major hindrance to adopting transloading as a practice stems from the current policy directive. The Global Container Management Policy memorandum states this practice is to be avoided unless transloading is, "…deemed temporarily essential by the supported Combatant Commander in coordination with USTRANSCOM" (Deputy Secretary of Defense, 2009). Union Pacific Distribution Services, a leader in the railroad industry states transloading is performed to "save money, increase flexibility, [and] improve reliability" (UPDS, 2008). "When executed correctly, transloading goods from one transport mode to another can help shippers increase flexibility and supply chain velocity, reduce cycle times, effectively plan distribution to meet market demands, and reduce shipping costs" (Ruriani, 2007).

"Training is essential to the achievements of a business" (Robertr, 2009). The IDA study addresses lack of substantial training as a "key factor contributing to DOD's container management difficulties…" by mentioning, "Insufficient trained personnel in forward locations" (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014). This issue was discussed in 2007 when GAO reported the DOD, "Lacked personnel with the right skill sets or training to take advantage of the technology tools that were available" (Solis, et al., 2007). "A 2008 Lean Six Sigma team analysis of this [container management training] problem, using IBS-CMM [Integrated Booking System-Container Management Module] data, showed error rates of the sampled container site population as high as 81.6%, with an average error rate of 23 percent" (Weaver, 2010). Another Army Sustainment article addresses training as the first recommendation for change, "[CME] staff must ensure that all system users are sufficiently trained on inputting data"

(Weaver, 2010). To combat this training deficiency, several changes have been made to training and availability of training for users. An Army Sustainment article stated, “DOD regulations and joint and Army publications have been changed to address the need for better container management. This shift in focus has caused major change in how we train our soldiers in container management” (Catchings, 2012). The Army sustainment webpage challenges the training problem. “GCM continues to "lean forward" to find more training platforms and innovative technology that not only meet the needs of the container management community but also capture the attention and interest of today's Soldiers” (Catchings, 2012). A mobile application has been created by SDDC allowing training in areas from container purchase to disposal as well as mandatory web-based training and a training working group (Catchings, 2012). “The shift in focus has caused a major change in how we train our Soldiers in container management” (Catchings, 2012).

The GCM problem isn’t getting goods and materials to the warfighter; it’s effectively and efficiently managing the network responsible for the movement, delivery, and return of the means transporting those goods. When viewing the GCM policy as a logistical network the benefits of a single system to manage the network makes sense. Inefficiency in delivery network was illustrated in a second case study that was reviewed. This case study highlights a global manufacturing company struggling in their delivery process. The introduction of a single user network to manage their delivery process proved to be both effective and efficient.

> The user interface of the application was developed to be clean and user-friendly, enabling users to easily navigate and utilize the system. The intuitive automated

> system provides the client with a rapid, accurate, and efficient means to collect, process, transmit, record, and manage inventory data. Providing a clear view of any inventory shortages and delays, along with comprehensive communication tools, the system eliminates the need to rely on traditional means of communications, such as phone and email, etc., to manage such delays (Aciron Consulting LLC., 2014).

The IDA recommendations listed a single-system CM platform as one of the two themes for enhanced effectiveness in creating better GCM policy. "Develop a single container-management system for all DoD entities. This system would provide a user friendly common operating picture that integrates transportation systems for the strategic, operational, and tactical levels that would be is accessible at all levels" (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014).

Database solutions are a common problem-solving strategy for many corporations. Advances in technology have enabled real-time visibility of goods, routing and scheduling, better inventory tracking, and decreased overall inventory. The evolution of just in time delivery along with the ability to easily track budgeting, employee scheduling, and paperless documentations of an entire business system have also improved with technology.

In response to the need for better integration within GCM, the Joint Container Management (JCM) was created and funded in 2012 (Military Surface Deployment & Distribution Command, 2014). SDDC stated in their briefing to the Army G4 the way-

ahead was to, “Ensure JCM development, fielding; emphasize and require constant use” (Military Surface Deployment & Distribution Command, 2014).

“DOD’s supply-chain management, which includes container management has been on GAO’s high-risk list since 1990” (Russell, et al., 2014). Simply put, GCM has been studied, reviewed, reported on, challenged, and manipulated; but its very nature creates gaps, holes, and seams preventing an end-to-end process. Figure 1 portrays this statement while Figure 2 explores the massive amounts of organizations working independently while relying on each other to complete the multimodal act of transportation, and on a larger scale, the logistic enterprise. “Understanding the JLEnt [Joint Logistics Enterprise] framework facilitates holistic end to end analysis of all joint logistic capabilities, across all boundaries, in order to determine the cause-and-effect events that impact effectiveness and efficiency” (Gainey, 2010). These are the gaps and seams SDDC is trying to eliminate to create the best possible Global Container Management Policy. “Multicommodity network flow (MNCF) problems arise when several commodities share arcs in a network and compete for the capacity on these arcs” (Jones, Lustig, Farvolden, & Powell, 1993). Commodities can refer to both the need to receive and return containers.

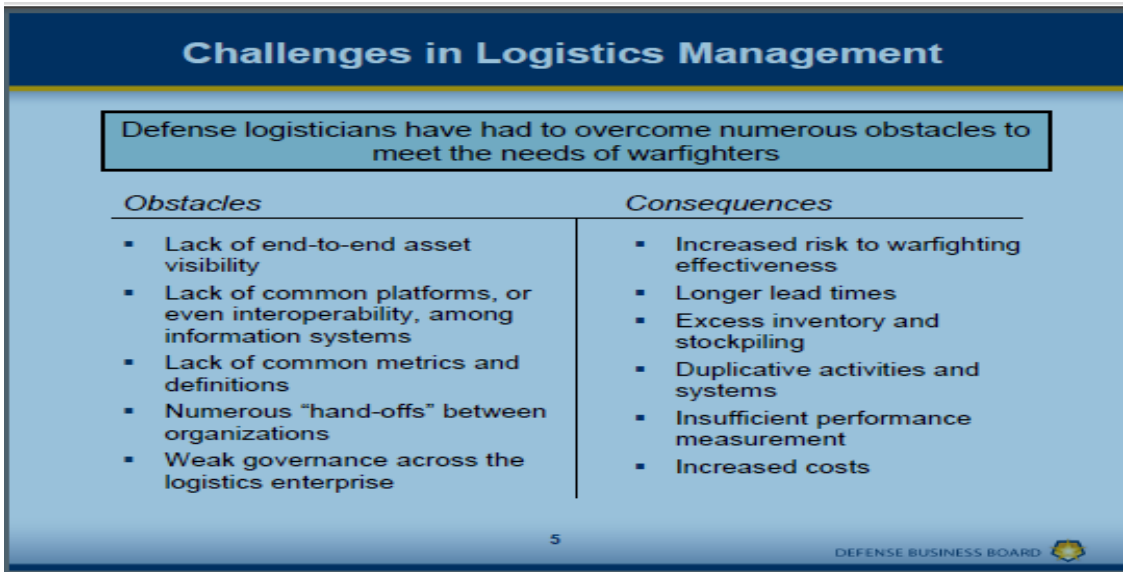

Figure 1: Challenges in Logistics Management. Source: Defense Business Board Report FY11-7

Figure 2: Integrated Joint Logistics Processes. Source: Joint Concept for Logistics, 2010

Summary

The GCM network consists of supported and supporting organizations but remains fragmented due to overlapping policies. By evaluating core documents, training, and an integrated network solution then establishing identified barriers, benefits to be gained, bridges to overcome, policy change can be recommended. Streamlining the process under USTRANSCOM would benefit all users of GCM. Multiple levels of ownership exist within the network fragmenting USTRANSCOM's ability to truly function as the distribution process owner for GCM. Several policies hinder the overall GCM policy by giving the COCOMs container management ownership within their AOR. Retrograde and detention fees remain a significant portion of the overall GCM budget and a source of public scrutiny. Planning for future contingencies and anticipating needs with the ability to exercise the option of transloading to decide cost vs. time benefits may be an optimal next step in the evolution of GCM policy. Training continues to be an area where improvements must be made and the fielding of the JCM system would benefit the overall GCM network.

III. Methodology

Chapter Overview

Process mapping is a method to visually see a process as-is. This practice enables a start-to-finish look at a current process thereby using the information to refine, reorganize, or recognize gaps, seams, areas for improvement or areas of excellence.

Structural analysis of a process flow (such as an order-to-delivery cycle), by distinguishing how work is actually done from how it should be done, and what functions a system should perform from how the system is built to perform those functions can be beneficial for organizations wanting to decrease inefficiencies. Using this technique, main activities, information flows, interconnections, and measures are depicted. This graphic representation allows an observer to 'walk-through' the whole process and see it in its entirety (Business Dictionary.com, 2014).

SDDC mapped the Carrier Container process (Figure 3) highlighting the owner of each activity and where inputs into the IBC-CMM network occur. A qualitative coding process was performed to take various published studies, reports, and other improvement recommendations and organize them into the areas of training, information technology solution/integration, or policy rewrite. These results are discussed in the analysis chapter.

The Department of Defense Instruction (DODI) 4500.57, “Establishes amplifying policy and provides procedures for implementing the DOD transportation and traffic management policies (USD(AT&L), 2008). The instruction further, “Amplifies the United States Transportation Command responsibilities…development and management of DOD common-use intermodal container systems…” (USD(AT&L), 2008). In the

DODI, which is under draft pending final approval, the definition of container management will read:

> The planning, organizing, directing, controlling, and executing of all functions and responsibilities required to provide for positive and effective use of DOD/Service-owned, leased or controlled ISO containers. Includes, but is not limited to, the functions and responsibilities of life cycle asset and operational management supporting the full spectrum of operations (Military Surface Deployment & Distribution Command, 2014).

This instruction cements USTRANSCOM's role as the distribution process owner for GCM, but both Joint Publication and the Defense Travel Regulation state the authoritative role for a supported combatant commander (CCDR).

Five crucial current policies documents were reviewed to address specific word changes to achieve strategic successes. The DTR part VI hinders SDDC with developing COCOM policies. These policies could be in place allowing better overall management of the supply-chain piece of GCM. While each COCOM is only allowed and staffed to manage just the containers while in their AOR, continuity can remain elusive. By the wording in JP-4; the overall responsibility reads as service-specific, further complicating SDDC's roles as GCM process owner. Finally, the ATP 4-12 places the distribution network responsible on theater commanders under policy of each CCDR operation plan.

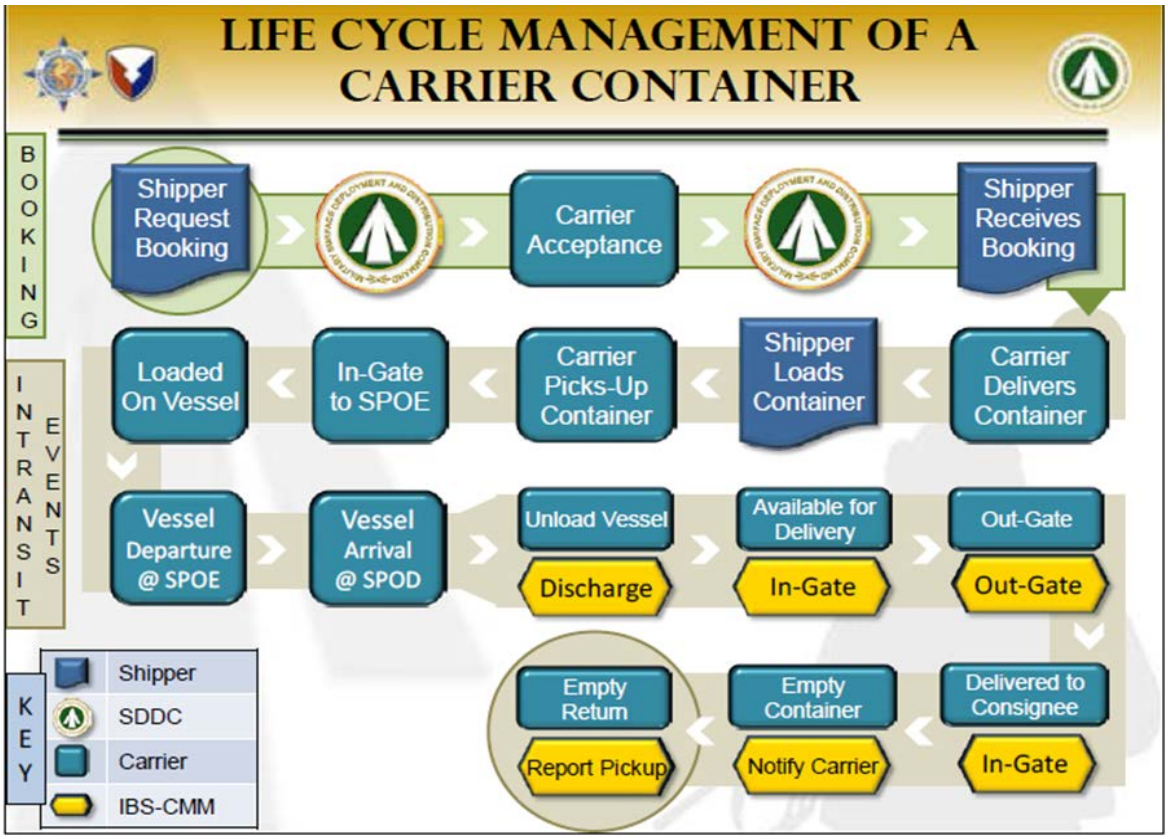

Figure 3: Life Cycle Management of a Carrier Container. Source: SDDC

Inherent to having a successful GCM network is a true understanding of the existing conditions. Much like the process mapping begun by SDDC, visualizing the process is an integral step in solving the problem. "Develop robust business models while including the core assumptions, processes and constraints that exist within the supply chain" (Moore & Van Pelt, 2005).

Summary

Process mapping identifies areas where policy seems to contradict its intent. Establishing USTRANSCOM as the distribution process owner but allowing CCDRS authority within their AOR is counterintuitive to a GCM policy. By comparing industry similarities and differences in policy methodology shows problems with having multiple process owners. While the DODI 4500.57 is a benefit for USTRANSCOM, JP 4-09 and the DTR work against the policy and create a barrier to a successful GCM policy.

IV. Analysis and Results

Chapter Overview

While most reports, audits, papers, opinions, and studies highlight the same problems; fixing those problems is not an easy task. In studying and comparing various studies and reports over the past 15 years, three distinct themes were repeated: issues in training, lack of an integrated GCM technological system, and conflicting or hindering policy for SDDC. By coding some of the major documents, problems were identified and categorized then matched to an appropriate bridge which could lead to an overall program benefit on the strategic, operational, or tactical level. Figure 4 displays the results from this methodology. Without an authoritative distribution process owner a true integrated GCM system is difficult to create, maturate, and contain. The comparisons in the methodology reveal the gaps created by the very policies set to eliminate them. Just in the two recent conflicts, USTRANSCOM, USCENTCOM, DLA, and the US Army all own major GCM pieces. For example, an Army unit orders supplies to be delivered in a shipping container. DLA has the role of container purchaser. USTRANSCOM is then tasked to source the carrier who will deliver the container as shown in Figure 3. Once the container arrives in theater, USTRANSCOM is no longer the process owner as the CCDR delegates the unloading, delivery, and retrograde decisions. This is normally delegated by the CCDR to a J-4, JDDOC, service component, or theater container management office (Joint Publication 4-09, 2003). SDDC, as tasked by its parent organization USTRANSCOM, tracks the container but is at the mercy of a CENTCOM owned-asset to record when the container was delivered, emptied, and is ready to return. If errors occur anywhere in the process, accountability becomes clouded and responsibility is muddied

causing detention fees, potential lost supplies, duplication of effort, and wasted resources of time, personnel, supplies, and money. These possible errors do occur and are often times the write-ups in the reports and studies described in the literature review. Figure 4 utilizes the results of the qualitative coding process analysis to begin the discussion on various linkages in greater depth in the context of answering the main research questions.

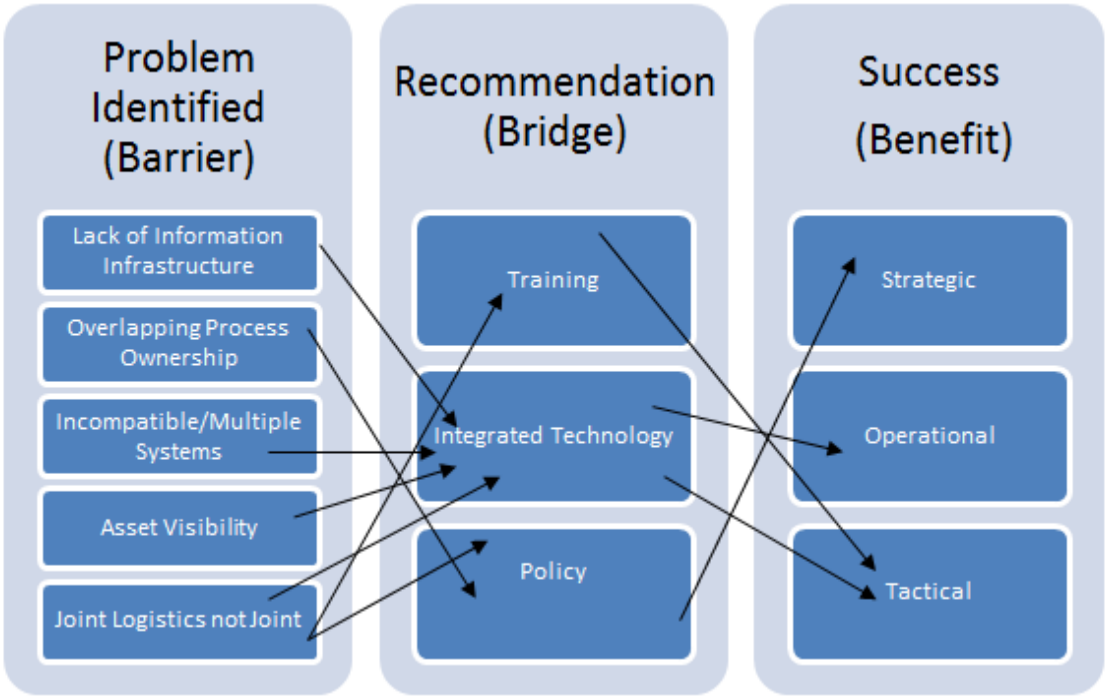

Figure 4: Qualitative Coding Process. Source: Bowman, 2015

Investigative Questions Answered

The first question asked was: What are the major barriers facing GCM today? The need for an integrated computer network, relevant and accessible training and policy rewrites. These answers were revealed in the coding process performed. The idea of a

single computer system proved successful in the global manufacturing company case study. The sheer size of the enterprise, the different levels of classification, access, and cyber threat of a single system breach will make the importance of getting the JCM right the first time. The JCM system will serve as the single container management system capability solution. The DOD logistics community has yet to create, fund, and field one system for any complete network but this system has been agreed upon by the Joint Intermodal Working Group (JIWG). The Distribution Steering Group (DSG) also agreed with the single system interface and the Joint Logistics Board (JLB) endorsed support and funding in 2012. As previously discussed, the JCM is not yet a reality which may leave doubt to actual fruition. Without the continued interest in JCM by the entire community, this idea of a single system may not become a reality. When this single system is implemented, the tactical level commanders will see benefits as every container control officer up to the GCM program office within SDDC will have access to the same information presented in the same way. Operationally, the system ties the GCM plan together.

Continuation of training for everyone involved in container management needs to remain a top priority for the DOD as without properly trained users success of any program is unlikely. The training improvement progresses made have resulted in easier access to the information needed. Continuing training improvements will benefit in the tactical level as those will have the most important touch time to GCM. If training is completed before a container is ever received into theatre, management of that container should have positive outcomes to the success of receiving, documenting, unloading, and

ultimately, retrograding the container back to the owner-carrier in an expeditious manner saving time and cost for the DoD.

Policy revision in the five major documents analyzed will aid in creating a strategic backbone to the GCM policy. By allowing policy to reflect SDDC as the distribution process owner for containers regardless of which AOR they temporarily reside in aligns with the DODI 4500.57. The rewrite does not mention the CCDR having to gain ownership of the containers while in their AOR. This would be a switch to a supporting role versus the current authoritative role.

The second question researched was: How can bridges be created and utilized or barriers eliminated to strengthen the GCM enterprise for end to end users? By revising all documents to make USTRANSCOM the operational and tactical managers for GCM to include COCOM AORs they would be able to have authority over processes they currently manage without decisional authority. This change requires policy rewrite which will not be difficult as the DODI 4500.57 outlines this concept. The difficult part as with most policy changes is challenging the old way of doing things. This piece must occur with groups like the JIWG, DSG, JLB, service components and J4 offices coming together to work the changes out prior to taking the proposal to the Director, AT&L. This will serve as the elimination of any inconsistent COCOM polices creating variance between the AORs making it difficult for USTRANSCOM to manage the overall program. Additionally, CCDRs may not be initially receptive to the idea of not having complete control within their AOR. This will not only change where and who determines decisions but may cause a decrease in COCOM staffing which in turn would increase SDDC manpower to absorb the additional responsibilities. This part will require

manpower studies and lines of funding changes and may cause a delay in implementation.

This brings us to the third research question: Can SDDC become a true distribution process owner? This is not easily answered by the research as what defines a true distribution process owner remains clouded by conflicting policy and guidance. By DOD Instruction, USTRANSCOM is the Distribution Process Owner for Global Container Management (USD AT&L, 2008) but does not control what happens within a COCOM's AOR. Temporary container storage, loading/unloading, unintended uses, and handling is the responsibility of "Theatre Container Managers" who have, "the overall responsibility for container control functions within the AOR" (Deputy Secretary of Defense, 2009) as appointed by the supported COCOMS and US Special Operations Command under the Global Container Management Policy. As long as the lines of control continue to accommodate multiple piece owners, a true authoritative distribution process owner remains fragmented. The relationships from the Under Secretary of Defense for Acquisition, Technology & Logistics down to a container control officer serve as the loosely held strings of the Global Container Management policy blanket.

Summary

SDDC under the delegated authority of USTRANSCOM has the mission to "Serve as the DOD's single manager and authority for the management and control of DOD containers moving in or outside the Defense Transportation System and until the containers are returned to their owners" (Military Surface Deployment & Distribution Command, 2014). To achieve mission success, SDDC has been evolving processes,

policies, training, tactics, techniques, and relationships heavily over the last ten years. The theatre distribution network is as complex as the topographical landscape which it moves through.

Analysis shows barriers within GCM due to policies limiting USTRANSCOM's role within an AOR as well as an inadequate computer network available for end-to-end users. Training still remains an area of concern while major advances in both types and availability have been implemented.

V. Conclusions and Recommendations

Chapter Overview

Government and non-government agencies have multiple reports with similar results and recommendations for the GCM policy. Figure 5 shows 95 previous recommendations from over 25 reports addressing changes needed to improve GCM.

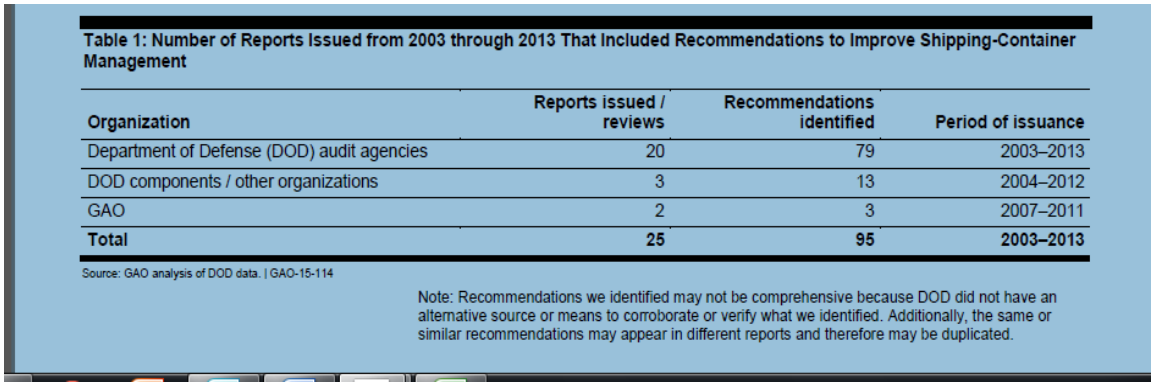

Table 1: Number of Reports Issued from 2003 through 2013 That Included Recommendations to Improve Shipping-Container Management

Organization	Reports issued / reviews	Recommendations identified	Period of issuance
Department of Defense (DOD) audit agencies	20	79	2003–2013
DOD components / other organizations	3	13	2004–2012
GAO	2	3	2007–2011
Total	**25**	**95**	**2003–2013**

Source: GAO analysis of DOD data. | GAO-15-114

Note: Recommendations we identified may not be comprehensive because DOD did not have an alternative source or means to corroborate or verify what we identified. Additionally, the same or similar recommendations may appear in different reports and therefore may be duplicated.

Figure 5: Number of Reports Issued (2003-2013). Source: GAO analysis of DOD Data, GAO 15-114

Lack of the right type of training to include access, multiple computer systems for asset management, and policies limiting the GCM control USTRANSCOM has as the distribution process owner serve as three major hindrances to GCM. The investigative questions show with continuation of training improvements more individuals will receive the training needed to be a part of a successful GMP campaign. Funding, developing, and fielding the JCM will be an enormous asset to GCM for both users and USTRANSCOM. Finally, a rewrite of portions of policies to stop limiting the scope of USTRANSCOM's authority will result in a better run GCM program.

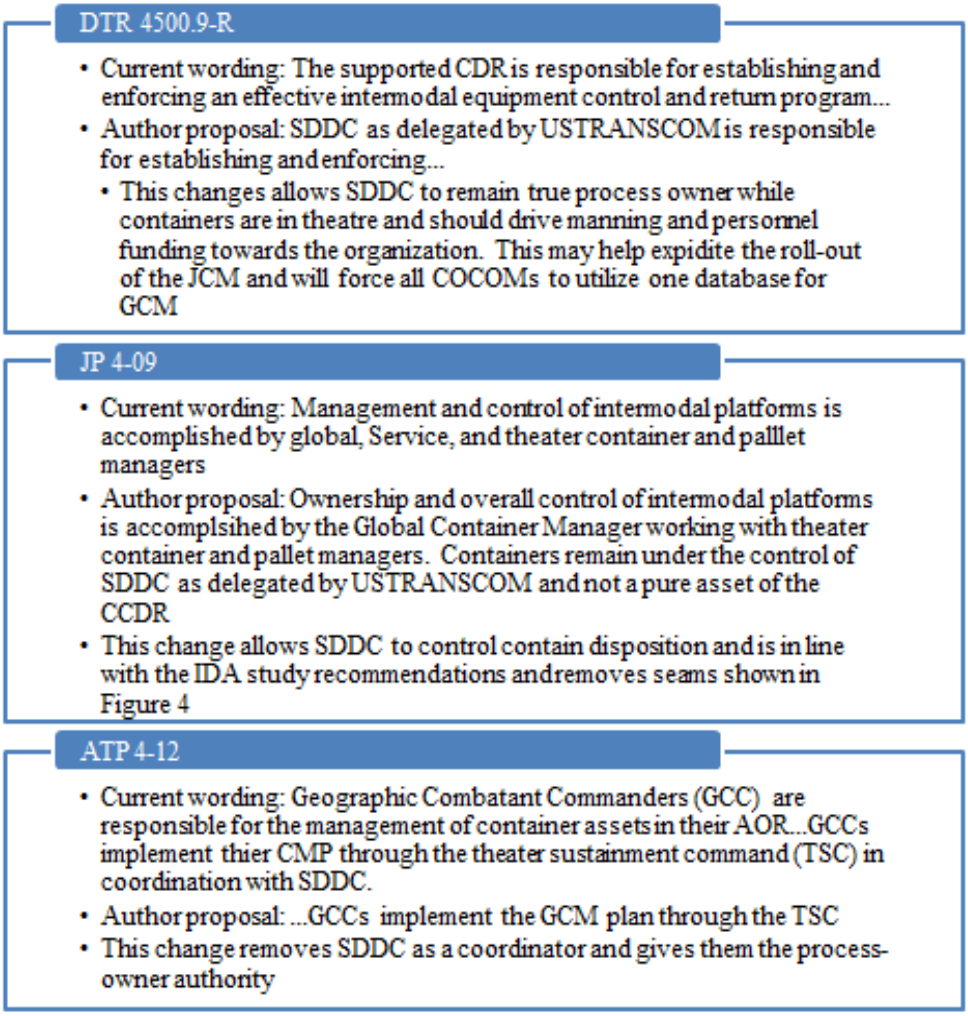

Figure 6: Small Changes, Big Impact. Source: DTR 4500.9-R(4/11); JP 4-09(12/13); ATP 4-12(7/13); Bowman (2015)

These proposed changes are the result from the qualitative coding process in Figure 4. These changes address the connection to the tactical, strategic, and operational disconnect with current policy. The purpose of Figure 4 is to illustrate a reconnection by revising current policy. Policy change will also allow USTRANSCOM to own the

responsibility of training, tasking, and aiding users, container control officers, and COCOM leads.

Conclusions of Research

This research has mapped barriers, bridges, and benefits of various policies resulting in an opportunity to change overall authority of GCM. Allowing USTRANSCOM to have complete container control to include while containers are in a COCOM AOR will allow tangible benefits to the GCM policy. Unbinding USTRANSCOM by policy restrictions will allow achievement of strategic, operational, and tactical level success as shown in the qualitative coding process.

Significance of Research

The significance of this research is the compilation of reports proving, "…doctrine, planning, training, materiel, and information technology—must be synchronized in order to support an efficient and strategically flexible distribution network" (Johnson, McCray, Conley, Cladwell, Buford, & Kaye, 2014). Identifying three policies where small word changes will have a large impact on SDDC fulfilling its role as the process-owner as deemed by the GCM policy letter and enable all CCDRs to align under one complete policy for managing containers while in their AORs. Additionally by coding the major bridges, barriers, and benefits to the GCM program, focus areas can easily be viewed for deeper analysis and implementation.

Recommendations for Action

This research should serve as the starting point for policy review to give USTRANSCOM complete control of the GCM policy to include within the AOR. The JLB should hold conference with SDDC to work on suggested policy rewrite, regardless who authors the policy as the logistics experts overall multiple organizations need to align all policies with the focal point of a sole distribution process owner. Once rewrites are complete, authoring organizations, if not already vested in the rewrite, should review documents for discussion and approval. This rewrite should include the benefit of transloading if an analytical model proves value in the next conflict. Continue emphasis on the right training at the right time to take burden away from incomplete asset visibility. Finally, funding and acclimatization to the integrated logistics GCM system to eliminate redundancies, lack of communication between the services and systems.

Recommendations for Future Research

A modeling simulation to establish proof of concept for JCM should be conducted in the near future while the program is still under development. Transloading has shown to be successful in various situations and the benefits should be researched further as no clear reason why transloading would not serve to both increase effectiveness and efficiency. While policy negatively discusses transloading, actual research could be conducted to examine if transloading decreases detention fees while avoiding loss, or time to receive containerized goods. Research on how warplanning is conducted within the COCOMs would serve as a model for contingency planning.

Summary

The most recent IDA report reveals the challenge facing the DOD in increasing the current successes of the Global Container Management program. Several reoccurring topics have been provided for changing policy. Three major concerns addressed in this paper are lack of GCM ownership by a single organization, problems with training access and implementation; and consolidated network infrastructure. Policies, procedures, and practices are owned by many organizations with their own vertical chain of command and often time no horizontal chain exists between the AOR and USTRANSCOM. Secondly, the DOD has been unable to unite multiple systems so the same technological infrastructure can be used from the highest layer of container management policy(ies) writers to the solider, sailor, airman, or marine on the ground tasked to order, inventory, return, or request assistance with a DOD or carrier-owned container. Finally, while container training has made significant process, continued monitoring, upgrading, and making accessible will remain the basis for a successful program due to the vital role training plays in any globally affected system.

Global Container Management Improvements

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Problem Statement

SDDC has a fragmented GCM policy caused by horizontal levels of authority, conflicting mission and metrics, incomplete training and an inability for total asset visibility

Research Questions

1. What are the major barriers facing GCM today?
2. How can bridges be created and utilized to strengthen the GCM enterprise for end-to-end users?
3. What changes within the network would make the most beneficial changes to the GCM policy to support the strategic perspective while accommodating tactical execution?

Analysis

Wording Changes to Policy

DTR 4500.9-R

- Current wording: The supported CDR is responsible for establishing and enforcing an effective intermodal equipment control and return program…
- Author proposal: SDDC as delegated by USTRANSCOM is responsible for establishing and enforcing…
  - This changes allows SDDC to remain true process owner while containers are in theatre and should drive manning and personnel funding towards the organization. This may help expedite the roll-out of the JCM and will force all COCOMs to utilize one database for GCM

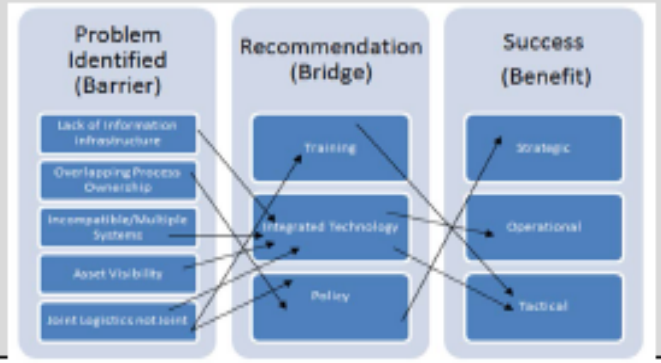
JP 4-09

- Current wording: Management and control of intermodal platforms is accomplished by global, Service, and theater container and pallet managers
- Author proposal: Ownership and overall control of intermodal platforms is accomplished by the Global Container Manager working with theater container and pallet managers. Containers remain under the control of SDDC as delegated by USTRANSCOM and not a pure asset of the CCDR
- This change allows SDDC to control contain disposition and is in line with the IDA study recommendations and removes seams shown in Figure 4

AIP 4-12

- Current wording: Geographic Combatant Commanders (GCC) are responsible for the management of container assets in their AOR…GCCs implement their CMP through the theater sustainment command (TSC) in coordination with SDDC.
- Author proposal: …GCCs implement the GCM plan through the TSC
- This changes removes SDDC as a coordinator and gives them the process-owner authority

Barriers, Bridges, Benefits



Methodology

Process mapping and qualitative coding were utilized to identify and understand ways to improve Global Container Management

Recommendations

- USTRANSCOM is Distribution Process Owner for Global container Management
- Multiple policies, fragmented training, and lack of a single server network hinder ownership
- Investigative questions revealed training for all involved in container management needs to remain a priority
- Developing and fielding the Joint Container Management system network will be enormous asset to USTRANSCOM for program ownership and for user in-transit visibility
- Rewrite of policy to remove scope limitations for USTRANSCOM authority will result in a more successful GCM program

Collaboration

USTRANSCOM/SDDC/GCM

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Vita

Major Traci L. Bowman graduated from Ritenour High School in Overland, Missouri. She finished her undergraduate studies at Angelo State University in San Angelo, Texas where she graduated cum laude with a Bachelor of Science degree in Kinesiology in December 2012. She was commissioned through the Detachment 847 AFROTC at Angelo State University. Her first assignment was at the 436th Aerial Port Squadron at Dover AFB as a Logistics Readiness Officer. In July 2006, she was assigned to the 65th Logistics readiness Squadron, Lajes Field, Azores, Portugal. While stationed at Lajes, she deployed in support of OEF July 2000 to spend six months as the S4 for the 342nd Ordinance Battalion, Bagram, Afghanistan. In July 2008 she was assigned to the B-1 System Program Office, Tinker AFB, Oklahoma and deployed to both Baghdad, Iraq in support of OIF serving as the assistant Chief of Staff to the MNSTC-I/CC and Kabul, Afghanistan in support of OEF as a logistics mentor/advisor to the Afghan National Army. In August 2011 she was assigned to Air Force Personnel Center as a Logistics Readiness Officer Assignment Officer. In May 2014, she entered the Graduate School of Engineering and Management, Air Force Institute of Technology. Upon graduation, she will be assuming command of the 60th Logistics Readiness Squadron, Travis AFB, California.

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14. ABSTRACT
Global Container Management is a multi-billion dollar part of the DOD's budget. Many reports have criticized the military for shortfalls in the handling of Global Container Management spurring major changes. While the title of distribution process owner is given to USTRANSCOM and executed by SDDC; the Combatant Commanders "own" all containers while residing or transferring through their respective AORs. This combined with training issues and lack of asset visibility creates opportunities to small rewrites of current policies enabling SDDC to execute a fully-functional global container management policy. The primary focus of this research will be on changes needed to training, policies, and full implementation of an integrated supply chain network system.

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